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Restructuring influences on organizational knowledge sharing: An interpretive case study

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UNDERSTANDING THE IMPACT OF ORGANISATIONAL DOWNSIZING ON KNOWLEDGE SHARING

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Abstract

Careful consideration by managers of the potential impact of the popular strategy of economic restructuring (downsizing) on organisational structure and culture could improve the quality of organisational knowledge sharing, however this influence has not yet been addressed in the knowledge management literature. This paper explores how a strategy of downsizing may reshape organisational structure and culture and inhibit organisational knowledge sharing, drawing on an interpretive case study of knowledge sharing in an information technology services function at a large Australian education service provider. Key findings indicate that when specialised teams are downsized, subcultures may develop where teams become mistrustful and insular, and knowledge sharing is constrained across teams. Further, when a hierarchical structure is present and downsizing occurs, managers may become more cautious about sharing knowledge with subordinates. The study also suggests that Internet technologies may play a key role in helping to compensate for the shortfall in knowledge stock resulting from downsizing. In conclusion, this paper highlights an important need for companies to consider the potential negative influences of downsizing on organisational knowledge sharing.

Keywords: Knowledge sharing, downsizing, restructuring, organisational culture

1 INTRODUCTION

Contemporary firms recognise that for knowledge workers to perform everyday work, develop innovations and obtain efficiencies, fragmented knowledge must frequently be shared across organisational boundaries (Tsoukas, 1996). Responding to this apparent need, many companies deploy a strategy of organisational knowledge sharing. However for such strategies to be fully effective, the key influences that enable or inhibit knowledge sharing must be managed. Among the most important factors to consider are organisational influences of structure and culture. First, structures of organisational boundaries, decision rights, coordinating mechanisms and informal networks can significantly affect patterns of knowledge sharing (Tsai, 2002; Kilduff & Tsai, 2003). Second, cultures of learning, innovation, trust, collaboration and cooperation facilitate knowledge sharing while cultures of distrust and the rewarding of individual knowledge promote the secreting of knowledge (Gold *et al.*, 2001; Husted & Michailova, 2002). The two dimensions of structure and culture are related. For example, Nahapiet and colleagues recently discovered widespread difficulties for managers when attempting to design organisations where cooperative relationships form and self-sustain (Nahapiet *et al.*, 2005).

We observed that, while many studies of knowledge sharing have separately considered influences of organisational structure or organisational culture on knowledge sharing, such studies do not address (a) the relationship that exists between the two dimensions of organisational design, (b) the combined effect of structure and culture on knowledge sharing, or (c) the complex organisational contexts of additional organisational strategies such as downsizing – developed in response to global pressures such as globalisation – that can undermine organisational structure, culture and knowledge sharing. To the best of our knowledge, there are no published studies of the impact of downsizing on the two organisational dimensions of structure and culture, and the flow on effect on knowledge sharing. Such an omission in the knowledge management literature is important to redress. As downsizing is a widely used organisational strategy in the age of globalisation, its potentially negative effects on knowledge sharing should form a vital part of the knowledge management discourse. This paper, therefore, investigates how a strategy of downsizing impacts organisational knowledge sharing by modifying organisational structure and culture.

The remainder of this paper is set out as follows. First, two sections establish a theoretical background from a synthesis of representative sources in the organisational studies and knowledge management literatures. Following a summary of the research methodology, we provide some of the key findings from an interpretive case study of knowledge sharing in the Information Technology (IT) services division of a large Australian education service provider, initially reported in Brain (2004). Finally, we examine academic and managerial implications arising from the findings and draw conclusions.

2 ORGANISATIONAL KNOWLEDGE SHARING

This section provides a short introduction to organisational knowledge sharing. While the term “knowledge” has been given many definitions in the literature, a popular definition that fits our worldview is the complex view of Davenport and Prusak who theorise knowledge as “a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers” (Davenport & Prusak, 1998, p. 5). We also adopt the position that knowledge has dual, complementary forms – tacit and explicit. Knowledge sharing, which is the subject of this paper, can be defined as a complex process involving the contribution of knowledge by an organisation or its people, and the collection, assimilation and application of knowledge by an organisation or its people

(Huysman & De Wit, 2002). Knowledge sharing is closely related to organisational learning which enables organisations to better respond to environmental turbulence (Templeton *et al.*, 2002).

Among the various perspectives of knowledge sharing in published literature, two recognised viewpoints are codification and personalisation (Hansen *et al.*, 1999). The codification perspective proposes that selected knowledge can be articulated as explicit knowledge by knowledge sharers and stored, later to be retrieved, reconstructed and internalised by knowledge receivers. With personalisation, knowledge sharing takes place through personal communication. A range of information and communication technologies (ICT) is available to support knowledge sharing, including portals, intranets, email and groupware. Such technologies enable access to stored knowledge, connect sharers and receivers for sharing and collaboration (e.g. communities of practice), and support business process improvement (Zack, 1999). Experts have noted a range of organisational, individual, social and technical influences on organisational knowledge sharing (e.g. Andrews & Delahaye, 2000; Bock & Kim, 2002; Bock *et al.*, 2005; Huysman & De Wit, 2002; Kalling, 2003; Kautz & Mahnke, 2003; Lichtenstein *et al.*, 2004; 2006). In this paper we focus on the organisational influences and, more specifically, the impact of a strategy of downsizing.

3 IMPACT OF DOWNSIZING ON KNOWLEDGE SHARING

This section reviews the potential impact of a strategy of downsizing on organisational knowledge sharing. We first observe the macro economic, political, social and technological global forces that shape modern organisations. Such pressures include globalisation, increased need for differentiation, workforce change and electronic business, leading to local organisational strategic responses such as downsizing, greater specialisation, outsourcing and knowledge management (Blumberg, 1998; Prusak, 2001). We argue that such strategies in turn influence organisational structure, organisational culture and knowledge sharing, as depicted in a theoretical framework for organisational influences on knowledge sharing (figure 1), developed in Brain (2004). Here, global forces are impacting on an organisation whose three key dimensions are strategy, structure and culture. Each dimension affects the other and influences knowledge sharing, as emerges from the discussions below, relating to: organisational culture and knowledge sharing; organisational structure, culture and knowledge sharing; and, more specifically, downsizing influences on organisational structure, culture and knowledge sharing.

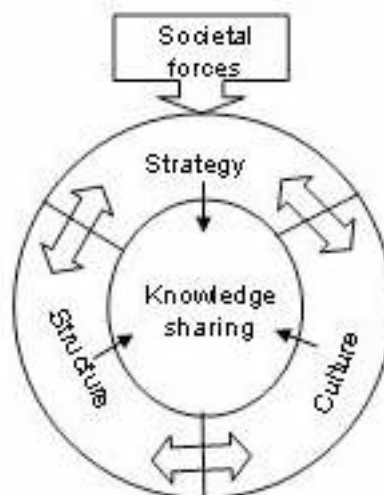


Figure 1. Organisational Influences on Knowledge Sharing (Brain, 2004)

3.1 Organisational culture and knowledge sharing

Effective knowledge sharing is best supported by a knowledge-friendly culture (Gold *et al.*, 2001). An organisational culture can be defined as a “consensual schema shared among employees in an organisation, resulting in and from a pattern of basic assumptions and norms enhancing individual and organisational stability, manifested in shared meanings, communicated by stories, myths, and practices, and resulting in certain behaviour patterns which are unique to the organisation” (O’Neill *et al.*, 2001). Organisational cultures depend greatly on employees learning from their everyday experiences, with knowledge-friendly cultures particularly susceptible to influences of practice. Formal closed cultures – as well as cultures rewarding individual rather than collective knowledge – promote knowledge hoarding (Husted & Michailova, 2002) whereas environments of learning, innovation, trust, collaboration and cooperation encourage the free flow of knowledge (Gold *et al.*, 2001). Fairness, innovativeness and affiliation are key social influences in organisational climates conducive to knowledge sharing (Bock *et al.*, 2005). Uhl-Bien and colleagues (2000) highlight the importance of social capital in developing relationships that facilitate future sharing.

According to Hendriks, four types of culture are typically found in modern organisations, each leading to different types of knowledge sharing (Hendriks, 2004). Some of the key characteristics of each culture type are summarised below (greater detail is found in Hendriks, 2004):

- *Clan* – Flexible, internal; Tradition, allegiance, socialisation, teamwork, solidarity, social control; Mutual social relationships; Coordination is a priority. Closed culture; Face to face meetings; Motivated to share knowledge by perceived relevance (need-to-know).
- *Entrepreneurial* – Flexible, external; Individual initiative; Independence; Innovation; Focused on individual career ladders; Sharing revolves around task-based need-to-know.
- *Market* – Stable, external; Contractual goals (eg financial); Contract task-based knowledge sharing.
- *Bureaucracy* – Stable, internal; Rules; Fixed working methods; Task-based knowledge sharing.

Sub-cultures may evolve by differentiation based on individual work groups (Huang *et al.*, 2003) or occupations, such as information systems (Guzman *et al.*, 2004). Having highlighted the influence of organisational culture on knowledge sharing, we now turn to examine the impact of organisational structure on organisational culture and knowledge sharing.

3.2 Organisational structure, culture and knowledge sharing

Organisational structure addresses the organising elements of companies including: division of labour and organisational boundaries, allocation of decision rights/locus of authority (eg centralisation), choice of coordinating mechanisms, and incentive schemes. Each element can impact knowledge sharing.

Division of labour: In hierarchical structures, specialised units are coordinated by the sharing of knowledge as a result of employment-based relationships (Tsai, 2002). Additionally, according to Tsai, in such structures some managers will systematically withhold knowledge from employees for political reasons, thereby constraining vertical knowledge sharing. Ever deeper knowledge is required from today’s competing knowledge workers and specialisation thus persists, sometimes leading to a specialist culture (Becher, 1990) where there is a separation of concerns and reduced inter-group knowledge sharing. Others have also noted that in specialised structures, employees tend to seek only knowledge relevant to their work (Lichtenstein *et al.*, 2004; Schultz, 2003), so reducing opportunities to share and learn across units.

Centralisation and locus of authority: With centralisation, authority is vested at a senior level whereas with a decentralised structure, authority is distributed among many managers. Centralisation combined with specialisation can lead to reduced knowledge sharing across groups (Tsai, 2002). While intra-group knowledge sharing is relatively easy to achieve, inter-group sharing is more difficult (Tsai, 2002) while proving essential for unit-to-unit co-ordination (Goold & Campbell, 2002). Indeed, cross-

functional knowledge sharing enables identification of cross-unit synergies, promotes “collective brainpower” and stimulates innovation development (Gupta & Michailova, 2004). Cross-skilling is a promising strategy for transferring knowledge between groups and is typically found in organisations that operate in uncertain conditions such as frequent downsizing, in order to reduce the effects of sudden knowledge loss (Hill *et al.*, 1998).

Coordinating mechanisms: Closely related to the locus of authority are mechanisms for co-ordinating activities, information and knowledge. Traditional hierarchical enterprises employ vertical reporting as a mechanism, however in modern networked organisations, coordination is supported by networks or inter-relationships (Hastings, 1993; Kilduff & Tsai, 2003). In the new empowered ‘self-managing’ teams, managers can play a knowledge broker role by transferring important knowledge in and out of the group (Hales, 2003). However according to Hales’ findings from a study of such managers, they experience difficulties adapting to new roles of leadership and entrepreneurship and often revert to known authoritarian roles stemming from traditional hierarchical structures. Keidel (2005) posits organisational solutions to such problems in terms of balancing individual autonomy, hierarchical control and spontaneous cooperation.

Incentives: Many experts have suggested that rewards should be offered to motivate knowledge acquisition and sharing and motivate employees to seek knowledge, receive it and incorporate it into their own personal knowledge-bases (Kalling, 2003). However, according to one recent study, providing external incentives will not often achieve desired outcomes with many employees seeking personal recognition or self-actualisation rather than rewards (Bock & Kim, 2002; Bock *et al.*, 2005).

3.3 Downsizing influences on structure, culture and knowledge sharing

The organisational strategy of interest in this paper is downsizing, defined as an intentional set of activities with reductions in personnel, improved efficiency through organisational change, and modified business processes (Cameron, 1994). Here, we discuss how downsizing may shape organisational structure and culture and, in turn, knowledge sharing. First, downsizing alters the structure of an organisation by redesign and contraction. It is possible that the newly designed structures may exhibit some of the difficulties outlined in the previous section. For example, social networks are disrupted when positions and groups are reorganised, affecting informal communication patterns (Dougherty & Bowman, 1995). Second, downsizing may have a deleterious effect on organisational culture by affecting trust, employee empowerment, initiative and morale (Mishra *et al.*, 1998; Mabert & Schmenner, 1997), developing narrow-minded, self-absorbed and risk averse employees (Cascio, 1993), reducing organisational learning capacity (Fisher & White, 2000) and promoting knowledge hoarding (Sarkis *et al.*, 2000). In addition, there have been widespread reports of employee disillusionment among downsizing survivors in different industries. For IT professionals – the foci of the empirical study reported in this paper – downsizing can lead to social network realignment and lowered self-confidence (Chiravuri & Ambrose, 2003). “All redesign creates losers, and losers can turn cynical and resistant” commented Goold and Campbell (2002, p. 7.). Such cultures are not knowledge-friendly, as highlighted earlier.

Interestingly, downsizing also leads directly to a need for greater knowledge sharing because there is a sudden knowledge loss (Hamel & Prahalad, 1994). Employees may leave the company, or transfer to another position and lack the knowledge required for the job. A way of transferring knowledge to new workers or making it accessible to them must be found.

One of the key strategic decisions that can accompany downsizing is outsourcing. In the software industry, for example, teams of contracted consultants (contractors) may analyse, develop, operate and manage a client’s business processes. Such contractors may be located remotely but are frequently co-located on the customer firm’s premises. However, the addition of contractors on- or offshore disrupts clients’ existing social networks and may motivate hostility, thereby affecting organisational culture and the transfer of knowledge (Warner & Brown, 2005).

4 RESEARCH METHODOLOGY

Seeking to gain deeper ‘rich picture’ understandings of organisational influences on knowledge sharing, we chose a qualitative, interpretivist approach to study this topic. We believe that knowledge and truth are socially constructed with multiple conflicting versions of reality to be found. Interpretive research is advantageous for the serendipitous discovery of new evidential data and insights because of its flexible approach.

A case study approach was selected as it can enable the researcher to investigate in-depth issues in context and build theory (Eisenhardt, 1989). A single case study was conducted as there was a scarcity of in depth empirical studies or recognised theories at the time this project commenced, suggesting a need for a revelatory pilot study (Benbasat, Goldstein & Mead, 1987; Galliers, 1992). While this method clearly would curtail the generalisability of the results, it could, however, prove useful for suggesting future research pathways by yielding preliminary theory to explore in other settings.

The case was chosen according to the theoretical sampling strategy of Eisenhardt (1998) in order to develop understandings about the theory being explored. We elected to study the IT services division (“ServIT”) of a large Australian organisation that provides educational services (“LearnTech”) to multiple enterprise clients, for two main reasons. First, LearnTech had recently emerged from one of a series of downsizing exercises where the personnel base in the ServIT division had been severely reduced, thus providing a suitable setting to explore the research topic. Second, IT professionals in ServIT possessed a good understanding of knowledge technologies, which would enable issues relating to knowledge technologies to surface.

We studied six teams within the IT services function – network communications, technical support, application services, online publication, business systems development, and application development. One of the researchers collected data in 2004 from ten semi-structured single interviews of one and a half hour’s duration; formal observation of teams at work, summarised as written notes; and background documents containing organisational strategic plans, structure charts and other structural information. Two managers, four developers, two technical support workers, and two technical programmers were interviewed, with one participant employed as a contractor.

Definitions of key terms were provided and questions were based on an extensive literature review of key reference domains (summarised in the previous section). Questions focused on exploring the structural and cultural context of knowledge sharing, against the background of downsizing. Sixteen groups of questions were asked, probing: demographics, structure and group culture, individualist culture, knowledge technology usage, knowledge sharing (contribution and seeking), trust, status issues, knowledge management strategies, incentives for knowledge sharing, training, mistake management, vertical and across-group knowledge sharing, sharing of sensitive knowledge, personal approachability, collaboration, knowledge reuse, and integration of knowledge sharing with everyday work. A complete question set can be found in (Brain, 2004).

Qualitative content analysis techniques were employed to analyse the data. One of the researchers inductively discovered coded categories over iterative readings of the interview transcripts, drawing on the earlier theoretical foundation to help identify categories which were later grouped into final themes. A second researcher conducted an independent analysis and the two sets of results were compared, seeking reliability. The two sets of results were similar and were thus integrated. Data from the remaining sources were employed as triangulation to check and establish validity and enhance the themes. Among the results (Brain, 2004), we discovered an important link between the organisational strategy of downsizing, and organisational structure, culture and knowledge sharing, as reported next.

5 FINDINGS

5.1 Background at LearnTech and ServIT

LearnTech plans, develops, delivers, manages and supports learning IT services and Web sites for over one thousand client corporations and over fifty thousand end-users. At the time of study, LearnTech sought effective financial resourcing by prudent deployment of key resources. One important resource area was the IT services division, ServIT, providing many client services including the development and management of Web sites. Based in a major Australian city, ServIT had a complement of approximately one hundred employed and contracted IT personnel working in specialised teams within a hierarchy.

In the early part of the millennium in Australia, the education sector had become increasingly technology dependent and centralised IT services had evolved at LearnTech. In the previous decade, several downsizing initiatives had been carried out and this strategy continued in 2003 with another downsizing initiative that aimed to reduce inefficiencies, duplication and excessive bureaucracy. Attrition, redeployment and packages resulted and ServIT was one of the divisions significantly affected. Next, we review key findings highlighting how the downsizing of ServIT had affected theoretical concepts in figure 1.

5.2 Impact of downsizing on organisational structure and knowledge sharing

The recent downsizing had led to structural effects in ServIT. Many job redundancies had occurred with some teams losing fifty percent of their members. Prior to downsizing, the structural effects of specialisation and centralised hierarchy and authority had already limited knowledge sharing to a need-to-know basis. The level of specialisation was such that teams operating within ServIT were unaware of and disinterested in what other teams were doing in their work. Each team had developed its own language and referred to a separation of concerns. Team specialisation had also led to lesser occasion to share knowledge across teams. As one participant explained:

We do the back-end part and they don't really need to know how that works. They make it pretty in the end and accessible, and we don't dictate to them how to make it pretty!

Indeed, most participants were unable to identify the activities of people working in other teams. This is consistent with the findings of Becher (1990) who noted how cultures of specialisation can develop when a strategy of specialisation is employed.

After the downsizing initiative where significant quantities of jobs were lost, there was a loss of knowledge, as long ago cautioned by Hamel and Prahalad (1994). However at the same time, teams had become more insular, leading to an increase in intra-team knowledge sharing which did not extend across teams and thus knowledge remained locked in team-based silos. This silo effect had precipitated a multi-skilling strategic initiative to better transfer resources between teams. Fisher and Fisher (1997) have suggested that multi-skilling is a less valuable strategy than simply relying on a synthesis of team members' specialised knowledge as needed to get the work done. While much of the time teams were able to muster and integrate individual knowledge in this way, on those occasions when this proved impossible, the multi-skilling strategy was of little help. At the same time, study participants were pleased to have the multi-skilling learning opportunities for personal development reasons. Cross-team presentations were also used to link teams but these had experienced limited success.

After the loss of jobs from the restructure, teams were, in the words of one participant, "massively under-resourced", some more severely than others. The resource shortage had impacted existing structures and knowledge sharing. For example, workers lacked the time to move around and develop new social networks and informal communication patterns with people in other teams, or attend

meetings where knowledge was traditionally shared. Such effects were predicted some years ago by Dougherty and Bowman (1995) and, more recently in the IT context, by Chiravuri and Ambrose (2003). Of added concern, innovation was reduced after downsizing due to the constant need for remaining employees to attend to basics and emergencies. Thus the learning capacity of the organisation had been reduced as foreshadowed by Fisher and White (2000).

As part of the downsizing program, LearnTech had outsourced some ServIT jobs and brought in highly skilled contractors who were employed by an IT consulting firm. This arrangement had raised knowledge transfer concerns relating to intellectual property where contractors did not share certain knowledge with ServIT employees. Contractors also lacked prior social networks with ServIT employees and thus there were reduced opportunities for sharing knowledge with them.

5.3 Impact of downsizing on organisational culture

A culture of mistrust, knowledge hoarding, and rushing had developed at ServIT after the downsizing initiative. Indicative of mistrust through the period of downsizing, employees constantly wondered who would stay and who would leave, and some resented taking directives from the new - and younger - contractors. Participants further noted how, at the time of downsizing, workers had been less inclined to share information and knowledge to help others do their job as they were concerned that by doing so, they might lose their own jobs. Organisational studies experts have also previously noted the negative effect of downsizing on employee trust (Mishra *et al.*, 1998; Mabert & Schmenner, 1997) and knowledge hoarding (Sarkis *et al.*, 2000). Finally, as noted earlier, reduced resources resulting from the restructure had led to employees constantly being short of time and a time-challenged culture had developed as a result.

Subcultures that were clan-oriented (Hendriks, 2004) had developed at ServIT as a result of specialisation exacerbated by downsizing. For example, participants from some teams described effective team work and socialising within their teams, with such socialising gradually having improved after the restructure:

...initially [after downsizing] it was more formal, [in that] once every couple of months we'd go out. But now people are actually friends outside of work as well, so there is no need to continue anything formal.

However in one team, workers did not socialise, having experienced a severe shortage of resources until recently:

We just didn't have time... we'd be working crazy hours. We just didn't have time to do that socialising thing.

A clan-orientation was also indicated by closed sub-cultures that did not share specialised knowledge with other teams, and knowledge only shared according to perceived relevance to others. ServIT also displayed some signs of a bureaucratic culture where process was everything (Hendriks, 2004):

I was very keen to get stuff documented... because I knew that management would require that sort of analysis, and if you can't justify and describe what you do, it means nothing around here.

In addition, there was evidence of a thinly veiled individualistic culture where people had their own personal agendas. According to one manager interviewed, some employees who had survived the downsizing initiative had developed a sense of being special, relating to the special skills for which they had been retained. The manager explained how he had therefore altered the roles of team members in order to eliminate any remaining belief that one member was more special than another. According to the manager, this strategy had proven effective and a harmonious team subculture had evolved. Yet some participants when interviewed readily admitted that private agendas were no doubt still operating in the background.

Overall, employee movements into different team subcultures after downsizing had not been painless: the newcomers coming in [from other teams] have had to let go of previous roles and previous tasks, as the way they do things is not suitable for the way we do things in network communications

5.4 Impact of changed organisational culture on knowledge sharing

Cultural changes stemming from downsizing had significantly impacted knowledge sharing at ServIT. First, as has been noted, knowledge tended to accumulate within teams. To promote knowledge exchange across teams, managers had established multi-skilling and cross-team presentations, however these strategies had proven ineffective, as also mentioned earlier.

Second, as team subcultures were clan-based, employees did not know what people in other teams did at work, and therefore might know. The informal social networks that would facilitate the sharing of knowledge with people outside the team did not exist. With the time-challenged culture, workers lacked the time to find out what others in the company were doing. When employees looked at other teams' web sites to learn more about them and their work, they found that each team had developed its own jargon and internal dialogue and this had proven sufficient to dissuade visitors from lingering, exploring and learning. Thus team-based Web sites were not intelligible or valuable to workers in other teams.

Third, knowledge was widely distributed inside and outside the firm. Sources of knowledge included: developers, supervisors, customer organisations, vendors, team members, external authorities and other internal groups. When knowledge was needed from outside a team, electronic channels were often employed as clan-like insulated workers lacked awareness of where knowledge now resided in the organisation. Electronic channels were used to source knowledge, including the World Wide Web, network hard disk drives, telephone, e-mail and online chat. An online forum was popular for collaboration with external end-users at client organisations. The Web was enormously popular with participants as the first port of call, for problem solving and searching for complex sophisticated technical information. Intranets were often team-based knowledge and information sharing tools, and had evolved into silos. Telephones were rarely used for knowledge sharing. E-mail was a popular channel for intra-team sharing. Face-to-face channels were largely used for intra-team knowledge sharing and for sharing between others who had established social relationships through current work (eg. business system development) or from previous work roles in other teams. Individual motivation to share knowledge personally was often altruistic and self-actualising, as was found also in another study of influences in knowledge sharing (Lichtenstein *et al.*, 2006). External human sources were used to obtain technical knowledge and information that were not believed to exist within LearnTech. For example:

I couldn't get it [knowledge] off anyone in here, so I've gone totally out of the organisation altogether. Or, if I know a friend who works in IT somewhere else, I'll email them or speak to them.

After searching the Web and databases and other members of the same team, seeking knowledge outside the firm was the next step. Looking inside the company (outside their team) for knowledge from people whom they did not know or trust was not mentioned by participants as a strategy used to find knowledge.

Fourth, knowledge was sometimes filtered vertically with some managers not sharing knowledge freely with employees.

I don't have access to everything [the managers] have got access to and I ask, 'Why?' and it's just, like, 'You don't need access to that'. But it may help me with my job, so it's frustrating in that sense. You feel like you're being spoon fed, or you've got the drip method!

One manager explained that confidentiality could be an issue limiting vertical sharing:

... your management can tell you things in confidence, so you can't breach that confidentiality. You just have to tell them [the team] 'Look, I can't explain things right now. You'll know in due course.' So people have to respect that.

Fifth, as a result of a strategy of IT outsourcing, social networks were disrupted and issues of intellectual property rights arose. Knowledge was not always shared by contractors, raising further tension:

Occasionally, you'll have people come in with a skill set that they just won't share. They'll do their job and then they'll take it [skill set] away and you can't actually force a contractor into sharing information... There tends to be a lot of tension when that occurs because people think, "Well, wait a minute. We're buying your expertise. We own the intellectual property of what you're doing, on that basis.

To summarise, the findings highlight many of the relationships shown in figure 1, and illustrate the complex ways in which downsizing has negatively impacted organisational structure, culture and knowledge sharing.

6 CONCLUSION

This paper has broken new ground by reporting an attempt to understand the potential impact of downsizing on organisational structure, culture and knowledge sharing. While the findings are not immediately generalisable due to being based on only a single case study, they highlight some potential damaging effects from downsizing on the quality of knowledge sharing. First, the case study suggests that when organisations adopt strategies of downsizing, trust among employees may be damaged, social networks disrupted, and knowledge sharing reduced. Second, the findings indicate that when downsizing is combined with structures of specialisation, teams can become insular and horizontal knowledge sharing may be affected. Further, when firms maintain traditional hierarchies of authority, vertical knowledge sharing may be constrained.

While this research highlights the negative effects of downsizing on organisational culture, managers should note that, according to some experts, downsizing can be better managed to reduce such concerns (Pfeffer, 1998). Pfeffer suggests looking at alternative strategies to downsizing and goes on to offer a variety of ways to achieve better labour relations and higher performance. While it has been suggested that greater employee empowerment and autonomy may alleviate some of the negative effects of downsizing (Mishra & Spreitzer, 1998), Hales' recent study of middle managers suggests that managers find it difficult to lead and coordinate empowered employees (Hales, 2003) and that a focus on middle managers and their skills development could prove valuable.

Third, the study further suggests that when employees cannot easily find knowledge needed from other employees due to a less open culture, they will turn to the Internet and other technology-mediated knowledge resources for this knowledge. Further empirical research is needed to explore these issues more deeply in other settings and seek greater generalisability.

There are several key implications from the research described in this paper. For scholars, this paper has provided fresh understandings in the knowledge management domain by revealing the chain of influences by which downsizing may impact on organisational knowledge sharing in a complex global and organisational setting. This paper has also provided a warning to firms contemplating downsizing by highlighting the potential negative impact of downsizing on organisational knowledge sharing. It is hoped that the detailed understandings provided in this paper will help managers to make better decisions in such circumstances.

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